

A NEW SPECIES OF *EUCALYPTUS* L'HERIT. (MYRTACEAE) FROM SOUTHERN QUEENSLAND

A.R. Bean

Botany Department, University of Queensland, St Lucia, Qld 4067

Summary

Eucalyptus infera, a new species of *Eucalyptus* (*E.* Subgenus *Symphyomyrtus* Pryor and Johnson nom. inval.) is described, and notes on its taxonomic affinities, habitat, distribution and conservation status are given.

***Eucalyptus infera* A. Bean sp. nov.** affinis *E. camphorae* R. Baker sed differt habitu constanter "mallee", cortice e summo humo laevi, foliis vivide viridibus, alabastris cornuatis, fructibus valvis valde exsertis praeditis. **Typus:** Queensland. DARLING DOWNS DISTRICT: southern end of S.F. 444, south-west of Warwick, 28°24'S, 151°42'E, 4 October 1988, A.R. Bean 936 (holo: BRI; iso: CANB, MEL, NSW).

Eucalyptus dealbata var. *populnea* Blakely; Key to the Eucalypts (1934). **Type:** Queensland, Darling Downs District, Inglewood, October 1922, C.J. Smith (holo: NSW n.v. iso: BRI!).

A mallee to 8 m high, stems up to 150 mm diameter. Bark smooth throughout, shiny, coppery to olive-green in colour, shedding in narrow ribbons, and lacking oil glands. Lignotuber present. Cotyledons bilobed, c. 2 × 3 mm. Seedling leaves petiolate, opposite for about five pairs, elliptical, to 30 × 15 mm, dull green above, paler and often purplish below. Seedling stems glandular, verrucose. Juvenile leaves (after about Node 12) alternating, petiolate; petioles up to 21 mm long; laminae glossy green, discolourous, crenulate, ovate to orbicular, to 70 × 70 mm, mucronate or emarginate. Stems angular. Adult leaves alternating, petiolate; petioles up to 25 mm long; laminae glossy green, concolourous, broadly lanceolate to elliptical, 60–79 × 27–38 mm, margins slightly crenulate. Intramarginal vein remote (2–3 mm) from the margin. Oil dots abundant, several per areole. Inflorescences axillary, 9–18-flowered. Peduncles terete or slightly angular, 10–14 mm long. Pedicels 2–5 mm long. Buds to 15 × 5 mm, hypanthium hemispherical, operculum elongated, horn-shaped, 2.5–3 times longer than broad. Stamens white, all erect in bud, all fertile. Anthers versatile, dorsifixed. Stigma blunt. Fruit pedicellate, truncate-globular, 5–6 × 5–6 mm; disc broad, convex; valves (3)4, strongly exserted. Seeds black or brown, wedge-shaped, angular, reticulate, not lacunose, hilum terminal. Ovules in 6 rows on placenta. **Figs 1 & 2.**

Specimens examined: Queensland, DARLING DOWNS DISTRICT: Herries Range, Inglewood, Oct 1922, Smith (BRI, NSW); Herries Range, near Warwick-Pikedale road, Dec 1987, Bean 715, 716, 717 (BRI, NSW); southern end of S.F. 444, south-west of Warwick, Oct 1988, Bean 934, 936 (BRI, CANB, MEL, NSW); ditto, Jan 1989, Bean 984 (BRI, MEL, NSW).

Distribution and habitat: *Eucalyptus infera* is currently known from just one locality near the Herries Range south-west of Warwick where it covers an area of 40–50 hectares. Most commonly it grows in or next to often-dry watercourses, but it also extends onto adjacent low rises. Its altitudinal range is 725–750 metres. The soil type in areas where *E. infera* occurs is a grey sandy-clay, sometimes with a gravelly surface layer.

E. infera occurs as a component of an open forest community, growing as an understorey to other *Eucalyptus* species, such as *E. maculata* Hook., *E. fibrosa* F. Muell. subsp. *fibrosa*, *E. melliodora* Cunn. ex Schauer, *E. crebra* F. Muell., *E. tereticornis* Smith, and *E. moluccana* Roxb. Other associated plants include *Melaleuca decora* (Salisb.) J. Britten, *Racosperma lineatum* (Cunn. ex G. Don) Pedley, *Racosperma fimbriatum* (Cunn. ex G. Don) Pedley, *Jacksonia scoparia* R. Br. and *Melichrus urceolatus* R. Br.

Flowering period: September–November.

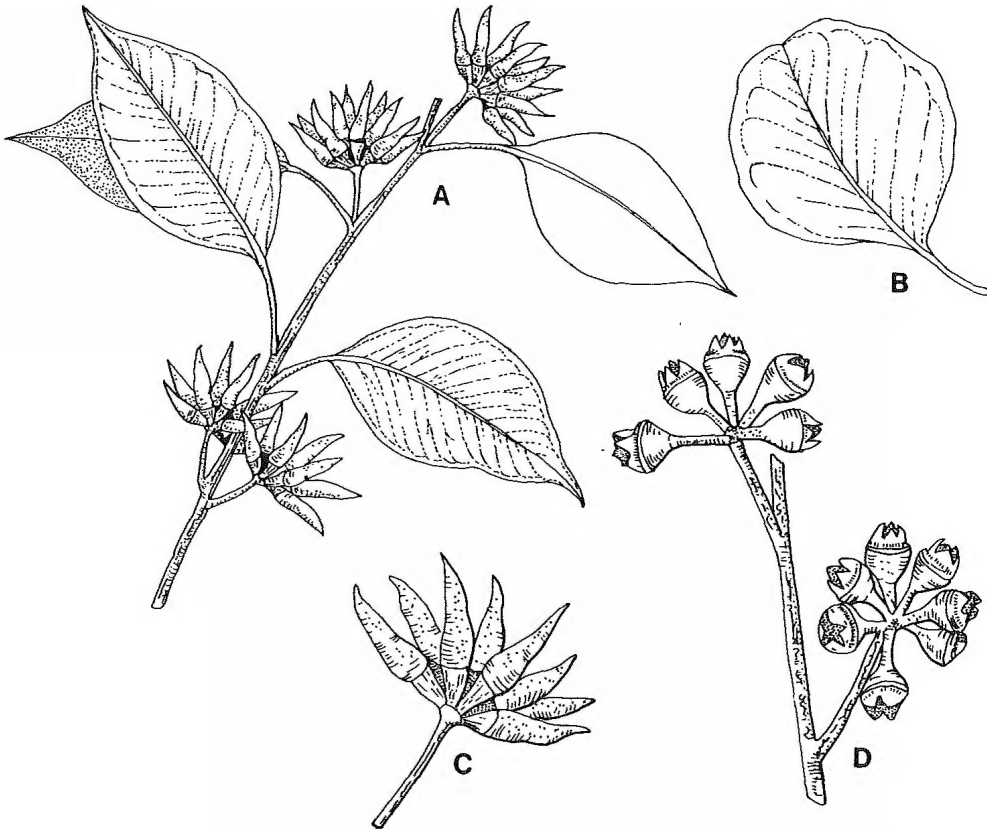


Fig. 1. *Eucalyptus infera*: A. twig with mature buds and leaves $\times 0.5$. B. juvenile leaf $\times 0.5$. C. mature buds $\times 1$. D. fruits $\times 1$.

Affinities: *Eucalyptus infera* is a distinctive species which can be readily distinguished from all other eucalypts. However, its affinities are not immediately obvious.

Its buds, fruits and seeds show a strong affinity with those of species of Series *Exsertae* Blakely (Chippendale 1988), the Red Gums. The buds are horn-shaped, with stamens all erect in bud. The fruits have a convex disc and strongly exserted valves. The seeds are dark and angular, not lacunose, with a terminal hilum. These are all characteristics of Series *Exsertae*. Also, the ovules are in six longitudinal rows, in common with members of the Red Gum group (Brooker 1979). Of the species in this group, *E. amplifolia* Naudin most resembles *E. infera*, because of the broad juvenile leaves, large number of buds per inflorescence and the habitat it occupies. *E. amplifolia* reaches its northern limit near the Queensland/New South Wales border at around 900 m altitude.

The seedling, juvenile and adult leaves, seedling stems, bark characters and habitat show a strong affinity with the Series *Foveolatae* Maiden (Chippendale 1988), the Swamp Gums. The seedling and juvenile leaves of *E. infera* are broad, distinctly crenulate and emarginate, and its seedling stems are verrucose. Its bark is uniform in colour and sheds in narrow ribbons. It grows on poorly drained sites. These are all characteristics of Series *Foveolatae*. Of the species in this group, *E. camphora* R. Baker most resembles *E. infera* because of its broad adult leaves and fruits with exserted valves. Also, it differs from *E. infera* in only one of the thirteen seedling characters used by Ladiges *et al.* (1984) to elucidate relationships within Series *Foveolatae* and some related species. *E. camphora* reaches its northern limit on the Queensland/New South Wales border, at about 1100 m altitude.

Oil glands in the bark have been found to be useful in taxonomic studies in *Eucalyptus* (Chattaway 1955). These glands are absent in Series *Exsertae*, but present in Series *Foveolatae* and other related series. Bark oil glands are absent in *E. infera*. While they are present in *E. camphora*, they occur very sporadically compared to some other species e.g. *E. viminalis* Labill.

E. infera clearly differs from both Red Gums and Swamp Gums, and would perhaps best be placed in a separate series between Series *Exsertae* and *Foveolatae*. Table 1 shows how *E. infera* differs from both *E. camphora* and *E. amplifolia*.

Notes: Blakely named this taxon at varietal rank. It is however worthy of species rank by virtue of its distinctiveness as outlined in the above table. Since the epithet *populnea* is already occupied at species rank for an unrelated taxon, this taxon is described under a new name.

Table 1. Comparison of *E. infera*, *E. camphora* and *E. amplifolia*

| Character | <i>E. infera</i> | <i>E. camphora</i> | <i>E. amplifolia</i> |
|------------------------|---|---|---|
| Habit | always a mallee | mallee or tree | always a tree |
| Height | 5–8 m | 10–21 m | to 30 m |
| Bark | coppery to olive-green, uniform no stocking of rough bark | grey to brownish-grey, with a stocking of rough bark | white to blue grey |
| Bark shedding pattern | in ribbons | in ribbons | small plates or large flakes |
| Juvenile leaves | ovate to orbicular, to 70 × 70 mm | ovate to spatulate, to 80 × 40 mm | broadly lanceolate to orbicular, 150 × 150 mm |
| Adult leaves | broadly lanceolate, to 79 × 38 mm, green, margins often crenulate | ovate, to 130 × 50 mm grey-green, margins entire | lanceolate, to 200 × 30 mm, margins entire |
| Buds per inflorescence | 9–18 | 7 | 7–18 |
| Operculum (L/B ratio) | 2.5–3.0 | 1.25–1.75 | 2–3 |
| Fruit | truncate-globular, disc broad, convex, valves strongly exserted | obconical, disc level, valves at rim level or slightly exserted | subglobular, disc broad, convex, valves strongly exserted |
| Position in canopy | understorey | top stratum | top stratum |
| Seedling stems | verrucose | verrucose | not verrucose |
| Bark oil glands | absent | present | absent |
| Seeds | black or brown, angular, not lacunose, hilum terminal | brown, not angular, lacunose, hilum ventral | black, angular, not lacunose, hilum terminal |

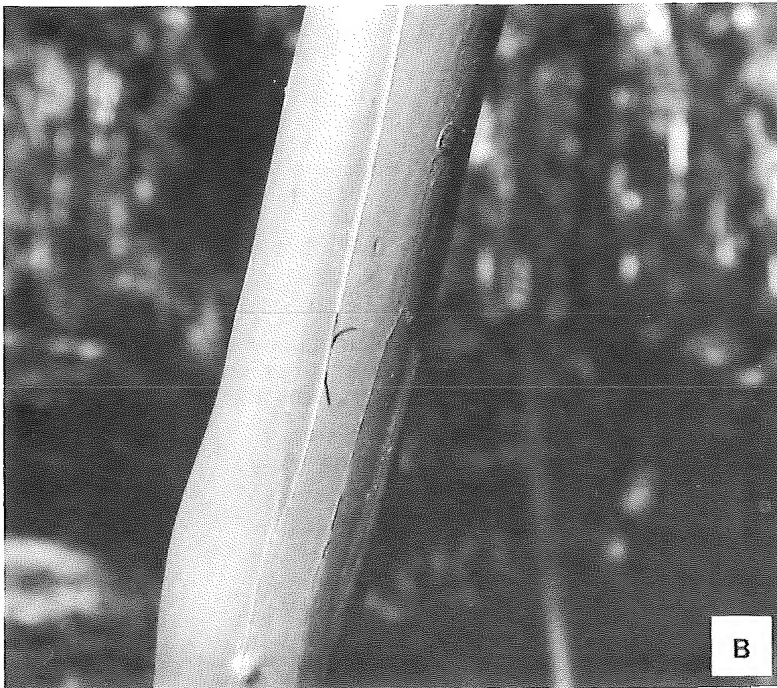


Fig. 2. *Eucalyptus infera*: A. typical habitat, showing mallee form of plant. B. bark.

Conservation status: *Eucalyptus infera* is known only from the type locality, where it is locally common and occupies 40–50 hectares. The great bulk of this occurrence lies within State Forest, and the Queensland Forestry Department is planning to gazette a Scientific Area to protect this rare eucalypt species (W. Greasley, pers. comm.). Suggested conservation status is 2V based on Briggs and Leigh (1988).

Etymology: The specific epithet refers to the fact that this species grows as an understorey to other eucalypts, a situation which rarely occurs with *Eucalyptus* species. (Latin *inferus*: “lower, that which is beneath”)

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